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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,358	02/06/2002	Kenneth C. Duisenberg	10019681-1	4285

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

LEE, CHUN KUAN

ART UNIT	PAPER NUMBER
2181	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/072,358

Applicant(s)

DUISENBERG, KENNETH C.

Examiner

Chun-Kuan (Mike) Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

  
FRITZ FLEMING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100  
8/24/2006

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection. Currently, claim 6 is objected and claims 1-24 are pending for examination.

### ***Claim Objections***

2. Claim 6 objected to because of the following informalities: Applicant stated that the invention is attempting to solve the lost of received packets (Specification, page 5, lines 1-10), but the limitation stated by claim 6 appears to be conflicting. Under the circumstance that if the timeout parameter, wherein said timeout parameter is a parameter related to an enforced event designed to occur at the conclusion of a predetermined elapsed time, reaches zero before another interrupt is issued, the received packet will be lost. Appropriate correction may be required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-2, 5-11, 14-17 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frink (US Patent 6,134,607) in view of Applicant's Admitted Prior Art (AAPA).

4. As per claims 1, 10 and 16, Frink teaches a data processing flow control computer system and method comprising:

a processor (col. 6, ll. 21-38);

a computer readable memory (e.g. host memory) coupled to said processor and containing program instructions that, when executed, implement a method of processing data, comprising (col. 6, ll. 21-38);

receiving an interrupt ("permission to read" signal) indicating data from a local area network (LAN) has been stored in one of a plurality of buffers (memory 14 of Fig. 1) and is ready for processing (Fig. 1 and col. 4, ll. 44-67), wherein LAN data is defined as any data that is transferred locally, without transferring through the wide area network, such as Internet or the like;

sequentially searching through said plurality of buffers containing data to find a second buffer with unprocessed data when a software buffer index (e.g. read pointer) points to a first buffer containing processed data (Fig. 1; Fig. 3 and col. 5, l. 1 to col. 6, l. 21), wherein the read pointer, after receiving the "permission to read" signal, will search by reading and processing data up to the location which the write pointer stopped and then switch control of the memory to the write pointer, therefore the location which the read pointer initially commenced to read will have been processed before; and

synchronizing said software buffer index to a hardware buffer index (e.g. write pointer) by resetting said software buffer index to a next available buffer having processed data following said second buffer after sequentially searching through the plurality of buffers containing unprocessed data (Fig. 1; Fig. 3 and col. 5, l.1 to col. 6, l. 21), wherein the software buffer index (e.g. read pointer) will be synchronized to the hardware buffer index (e.g. write pointer) after reading and processing data up to the location where the hardware buffer index has stopped.

Frink does not teach the data processing flow control computer system and method comprising wherein said sequentially searching is performed in response to receiving only an interrupt indicating only that data has been stored in said plurality of buffers.

AAPA teaches a method and a system comprising:

receiving and storing a new packet of data in a buffer in a ring of buffers for processing (Specification, page 1, ll. 16-26);

receiving an interrupt indicating that the stored new packet of data is ready for processing (Specification, page 1, ll. 16-26); and

checking and finding the stored new packet of data to process (Specification, page 1, ll. 16-26)., wherein the checking and finding would result in a sequential searching of the ring of buffers.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include AAPA's interrupt into Frink's data processing flow control computer system and method. The resulting combination of the references teaches the

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data processing flow control computer system and method further comprising wherein the receiving of only the interrupt only indicating the storing of the new packet of data in the ring of buffers would initiate the sequential search to find and process the newly stored packet of data.

Therefore, it would have been obvious to combine AAPA with Frink for the benefit of utilizing the interrupt for proper signaling to process the data stored in the ring of buffers.

5. As per claims 2, Frink and AAPA teach all the limitations of claim 1 as discussed above, where Frink further teaches the data processing flow control computer system and method further comprising wherein synchronizing said hardware buffer index and said software buffer index in response to an interrupt indicating data has been stored in one of said plurality of buffers and is ready for processing (Frink, Fig. 1; Fig. 3 and col. 5, l.1 to col. 6, l. 21).

6. As per claims 5, Frink and AAPA teach all the limitations of claim 1 as discussed above, where Frink further teaches the data processing flow control computer system and method further comprising wherein wrapping around to a start buffer after searching the end buffer in said plurality of buffers when sequentially searching through said plurality of buffers, said plurality of buffers sequentially beginning with a start buffer and ending with an end buffer (Frink, col. 2, ll.10-36 and col. 4, l. 44 to col. 6, l. 56), because said memory may be a circular buffer.

7. As per claims 6, Frink and AAPA teach all the limitations of claim 1 as discussed above, where Frink further teaches the data processing flow control computer system and method further comprising stopping said searching when reaching the last written address without finding a buffer in said plurality of buffers with unprocessed data (Frink, Fig. 2-3 and col. 4, l.11 to col. 6, l. 21), as the interrupt signal comprising the last written location where the read pointer must reach and then stop.

8. As per claims 7, Frink and AAPA teach all the limitations of claim 1 as discussed above, where Frink further teaches the data processing flow control computer system and method further comprising wherein each of said plurality of buffers is a local area network (LAN) buffer for storing LAN packets of data (Frink, Fig. 1 and col. 4, l.11 to col. 6, l. 21), wherein LAN data is any data that is transferred locally, without transferring through the wide area network, such as Internet or the like.

9. As per claims 8, Frink and AAPA teach all the limitations of claim 7 as discussed above, where Frink further teaches the data processing flow control computer system and method further comprising wherein said software buffer index is a LAN software buffer index, and said hardware buffer index is a LAN hardware buffer index (Frink, Fig. 1 and col. 4, l.11 to col. 6, l. 21), as the data are transferred locally, through the buffer memory, the read and write pointers are local pointers.

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10. As per claims 9, Frink and AAPA teach all the limitations of claim 1 as discussed above, where Frink further teaches the data processing flow control computer system and method further comprising processing (processing by reading the data stored in the buffer memory) said unprocessed data in said second buffer (Frink, Fig. 1 and col. 4, l.11 to col. 6, l. 21).

11. As per claims 11, Frink and AAPA teach all the limitations of claim 10 as discussed above, where Frink further teaches the data processing flow control computer system and method further comprising wherein said data from said LAN is a LAN packet (Frink, Fig. 1 and col. 4, l.11 to col. 6, l. 21).

Claims 14-15 repeat the limitations of claims 6 and 9 and are therefore rejected accordingly.

Claims 17 and 20-24 repeat the limitations of claims 2 and 5-9 and are therefore rejected accordingly.

12. Claims 3 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frink and AAPA, and further in view of Cromer et al. (US Patent 5,860,001).

Frink and AAPA teach all the limitations of claims 1 and 16 as discussed above.



Frink and AAPA do not expressly teach ignoring a first interrupt signal and synchronize the software buffer index and the hardware buffer index after receiving the interrupt signal a second time.

Cromer teaches the computer system and method comprising wherein there are at least two boot sequences and wherein the boot sequence after the computer is turned on comprising of loading BIOS, the operating system and the particular application defined by initialization control information which causes an initial program load (IPL) (col. 1, l. 28 to col. 2, l. 64), therefore upon turning on the computer system, said computer system requires a period of time before reaching a state of stability wherein the properly initialization has been completed (Fig. 10-11).

Therefore, it would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Cromer's plurality of boot sequences into Frink and AAPA's data processing flow control computer system and method. Doing so would further add and expand Frink and AAPA's data processing flow control computer system and method to further comprising ignoring a first interrupt indicating data has been stored in one of said plurality of buffers and is ready for processing when said software buffer index points to said first buffer containing processed data, because the computer system requires a period of time before reaching the state of stability; and synchronizing said hardware buffer index and said software buffer index in response to a second interrupt indicating data has been stored in one of said plurality of buffers and is ready for processing when said software buffer index points to said first buffer containing processed data for a second time and provide the user with at least two

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different lists of IPL devices for the computer system, therefore enabling easier network management of the computer systems (Cromer, col. 1, l. 28 to col. 2, l. 64 and col. 11, ll. 14-23).

13. Claims 4, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frink and AAPA, and further in view of Chen et al. (US Patent 6,470,463).

Frink and AAPA teach all the limitations of claims 1, 10 and 16 as discussed above.

Frink and AAPA do not expressly teach the determination if said first buffer contains processed data.

Chen teaches system and method for testing the integrity of data transfer of a hardware comprising determining if there is new and unprocessed data in the ring buffer, if there is new data, data processing implemented by reading said data (Fig. 5).

Therefore, it would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Chen's determination if the existence of new data into Frink and AAPA's data processing flow control computer system and method.

Doing so would further add and expand Frink and AAPA's data processing flow control computer system and method to further comprising determining if said first buffer contains processed data and then to process the data if said first buffer if said data is unprocessed, such as expediting the data flow and utilizing lesser buffer space (Chen, col. 1, l. 64 to col. 2, l. 28).

14. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frink and AAPA, and further in view of "Introduction to Computer Systems".

Frink and AAPA teach all the limitations of claim 10 as discussed above.

Frink and AAPA do not expressly teach a LAN driver.

"Introduction to Computer Systems" teaches a computer to be coupled to a local area network (LAN) (Section 1.7 on pages 13-14), wherein the computer must have the appropriate peripheral, such as a LAN device; and the utilization of a driver with a computer peripheral (Section 2.9 on pages 22-23), therefore, the LAN device would obviously have the corresponding LNA device driver.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Introduction to Computer Systems' LNA device driver into Frink and AAPA's computer system and method.

Therefore, it would have been obvious to combine "Introduction to Computer Systems" with Frink and AAPA because not only is the utilization of the LNA device and the corresponding driver well known to one skilled in the art for coupling the computer to a network, and further the LAN device driver provides the benefit of properly process the received LAN packets.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

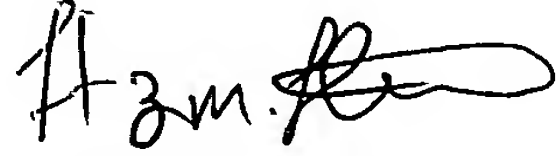
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.K.L.  
08/21/2003

  
FRITZ FLEMING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100  
8/24/2006